

AMENDMENTS TO THE DRAWINGS

Figures 16A, 16B, 17A, and 17B have been amended to include “PRIOR ART” labels, as they are reflective of the problems associated with JP 2391388. *See* p. 9, line 22 – p. 10, line 24.

Figure 16A has also been amended to remove reference character “17”, which was not discussed in the instant application.

REMARKS

Applicants request favorable reconsideration of this application in view of the foregoing amendments and the following remarks. Of claims 1-15 that were pending in the application, claims 5-12 were withdrawn from consideration and claims 1-4 and 13-15 were rejected in the Office Action. By way of this Amendment, Applicants have: (a) withdrawn claims 13-15; (b) amended examined claims 1-4 and withdrawn from consideration claims 6-9, 11, and 13-15; and (c) added new claims 16-19, without adding new matter. Therefore, claims 1-4 and 16-19 are respectfully presented for further consideration.

1. Rejection of Claim 1 under 35 U.S.C. § 112, ¶ 2

The Examiner rejected claim 1 under 35 U.S.C. § 112, ¶ 2 as allegedly being indefinite. Applicants respectfully submit that this rejection is now moot due to the amendments made herein to claim 1. A withdrawal of this rejection is, therefore, both warranted and respectfully requested.

2. Prior Art Rejections of Claims 1-4 and 13-15

Under 35 U.S.C. § 102(b), the Examiner rejected: (a) claims 1-3 as allegedly being anticipated by U.S. Patent No. 5,596,881 (“Wilson”); and (b) claims 2, 4, and 13-15 as allegedly being anticipated by U.S. Patent No. 5,743,571 (“Gaitros”). Preliminarily, the latter of these two rejections is now moot with respect to claims 13-15 due to the cancellation herein of those claims, without prejudice of disclaimer. Accordingly, Applicants respectfully traverse both of these rejections with respect to claims 1-4.

A. Claim 1

As amended herein, claim 1 recites a connecting structure. The connecting structure includes, among other possible things (italic emphasis added):

a first member; and
a second member,
wherein the first member has a peripheral wall portion that includes an outer end face and a stepped portion engaged with the second member,
wherein the peripheral wall portion includes a thin-shaped deformed portion that is deformed *radially inwardly* with respect to the stepped portion of the first member,
wherein the deformed portion is a cut section of the peripheral wall portion,
wherein the deformed portion is positioned *axially within* the outer end surface of the peripheral wall portion, and
wherein the deformed portion has a *concave face* abutting the second member.

For at least the following reasons, Wilson fails to teach or suggest such a structure.

In rejecting claim 1, the Examiner respectively analogizes Wilson's end cap 16 (specifically the surface 20 thereof), pick-up tube 28, annular shoulder 62, and deformed surface material 74 to the "first member", "second member," "stepped portion," and "deformed portion" recited in claim 1. With respect to claim 1, as amended herein, this analogy is incorrect for at least two reasons.

First, when Wilson's pick-up tube 28 ("second member") is inserted into the end cap 16 ("first member"), the deformed material 74 ("deformed portion") is deformed radially *outward*. In contrast, the deformed portion recited in claim 1 is deformed radially *inward*. Second, the face of Wilson's deformed material 74 ("deformed portion") that abuts the pick-up tube 28 ("second member") is *convex*. In contrast, the face of the deformed portion recited in claim 1 that abuts the second member is *concave*.

For at least the foregoing reasons, Wilson fails to teach or suggest each of the limitations of claim 1. As a result, Wilson can not be used to reject claim 1 under 35 U.S.C. § 102(b) and, therefore, a withdrawal of this rejection of claim 1 is both warranted and earnestly solicited. In addition, as the cylindrical wall 5 of the first member 1 of the prior art embodiment shown in Figures 16A and 16 is positioned *axially beyond*, rather than *axially within*, the outer end surface of the peripheral wall portion, this prior art embodiment can not be used to cure the deficiencies of Wilson.

B. Claims 2-4 and 13-15

As amended herein, claim 2 (*i.e.*, the claim from which claims 3 and 4 depend) recites a connecting structure of a pipe connected to a passage formed in a member. This connecting structure includes, among other possible things (italic emphasis added):

a projection portion that projects from the pipe radially outwardly;
a recess portion that is provided at an open end of the passage formed
in the member and that receives the projection portion of the
pipe,

wherein the recess portion is defined by a peripheral wall portion that
includes a thin-shaped deformed portion that is deformed *radially inward*,
wherein the deformed portion is a cut section of the peripheral wall
portion,

wherein the deformed portion is positioned *axially within* an outer end
surface of the peripheral wall portion and is engaged with the projection
portion, and

wherein the projection portion of the pipe, which is inserted into the
opening end of the passage in the member, abuts a *concave face* of the
deformed portion.

For at least the following reasons, neither Wilson nor Gaitros teaches or suggests such a structure.

Wilson: As previously discussed with respect to claim 1, Wilson fails to teach or suggest a portion that: (a) is deformed “radially inwardly” and; (b) includes a “concave face” that abuts a second member/pipe. As claim 2 also recites a deformed portion that is deformed “radially inwardly” and that includes a “concave face” that abuts the second member/pipe, claim 2 is also allowable over Wilson for at least the same reasons as claim 1.

Gaitros: In rejecting claim 2 in view of Gaitros, the Examiner respectively analogizes Gaitros’ inner end 4 and trepan 8 to the “projection portion” and “deformed portion” recited in claim 2. With respect to claim 2, as amended herein, this analogy is incorrect for at least two reasons. First, when Gaitros’ inner end 4 (“projection member”) is inserted into the body 2, the trepan 8 (“deformed portion”) is initially deformed radially *outward*. In contrast, the deformed portion recited in claim 2 is deformed radially *inward*. Second, the face of Gaitros’ trepan 8 (“deformed portion”) that abuts the inner end 4 (“projection portion”) is *convex*. In contrast, the face of the deformed portion recited in claim 2 that abuts the second member is *concave*.

For at least the foregoing reasons, neither Wilson nor Gaitros teaches or suggests each of the limitations of claim 2. As a result, neither Wilson nor Gaitros can be used to reject claim 2, or any claim dependent thereon, under 35 U.S.C. § 102(b). Moreover, as claims 3 and 4 depend from claim 2, each of these dependent claims is also allowable over Wilson and Gaitros, without regard to the other patentable limitations recited therein. Accordingly, a withdrawal of the various § 102(b) rejections of claims 2-4 is both warranted and earnestly solicited.

3. New Claims 16-19

New independent claims 16 and 19 (*i.e.*, the claims from which claims 17 and 19 depend, respectively) recite a deformed portion that “has a convex outer face.” With this shape, the deformed portion is tightly fit against the second member (claim 16) or the projection portion (claim 18) with a large connection force. In contrast, Wilson teaches a (Fig. 4; col. 5, line 1) a die 76 that includes a typical wedge-shaped striking head 78. A deformed surface material 74, which is stroked by the striking head 78, is bent and curved against an annular bead 42 of a pipe 29. Moreover, whereas claims 16 and 18 recite that the outer face of the deformed portion is “convex,” the outer surface of surface material 74 is concave. With Wilson’s configuration, the connection force between the deformed surface

material 74 and the annular bead 42 is not as large as in the present invention and is, therefore, less secure than the instant invention.

CONCLUSION

For at least the aforementioned reasons, claims 1-4 and 16-19 are now in condition for allowance. A Notice of Allowance at an early date is respectfully requested. The Examiner is invited to contact the undersigned if such communication would expedite the prosecution of the application.

Respectfully submitted,

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